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(51) International Patent Classification ⁶ : G01N 33/50, 33/543, C12Q 1/68	A3	(11) International Publication Number: WO 99/67641 (43) International Publication Date: 29 December 1999 (29.12.99)
(21) International Application Number: PCT/US99/14387 (22) International Filing Date: 24 June 1999 (24.06.99) (30) Priority Data: 60/090,473 24 June 1998 (24.06.98) US 09/189,543 10 November 1998 (10.11.98) US (71) Applicant: ILLUMINA, INC. [US/US]; Suite 200, 9390 Towne Centre Drive, San Diego, CA 92121 (US). (72) Inventors: CHEE, Mark, S.; 155 15th Street #24, Del Mar, CA 92014 (US). STUELPNAGEL, John, R.; 38 Briggs Avenue, Encinitas, CA 92024 (US). CZARNIK, Anthony, W.; 11017 Camino Abrojo, San Diego, CA 92127 (US). (74) Agents: BREZNER, David, J. et al.; Flehr Hohbach Test Albritton & Herbert LLP, Suite 3400, 4 Embarcadero Center, San Francisco, CA 94111-4187 (US).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> (88) Date of publication of the international search report: 9 March 2000 (09.03.00)
(54) Title: DECODING OF ARRAY SENSORS WITH MICROSPHERES (57) Abstract The invention relates to compositions and methods for decoding microsphere array sensors.		

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 99/14387

A. CLASSIFICATION OF SUBJECT MATTER

G01N33/50, G01N33/543, C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC⁶

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G01N, C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X, P	WO 99/18434 A (TRUSTEES OF TUFTS COLLEGE) 15 April 1999, claims 1-32. --	1-5, 8-15
A, P	WO 98/40726 A (TRUSTEES OF TUFTS COLLEGE) 17 September 1998, abstract, claims. --	1-18
A, P	WO 98/50782 A (TRUSTEES OF TUFTS COLLEGE) 12 November 1998, claims. ----	1, 4

☐ Further documents are listed in the continuation of box C.☐ Patent family members are listed in annex.

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Date of the actual completion of the international search
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zum internationalen Recherchen-
bericht über die internationale
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ANNEX

to the International Search
Report to the International Patent
Application No.

ANNEXE

au rapport de recherche inter-
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PCT/US 99/14387 SAE 241096

In diesem Anhang sind die Mitglieder
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Diese Angaben dienen nur zur Unter-
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This Annex lists the patent family
members relating to the patent documents
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Im Recherchenbericht angeführtes Patentdokument Patent document cited in search report Document de brevet cité dans le rapport de recherche		Datum der Veröffentlichung Publication date Date de publication	Mitglied(er) der Patentfamilie Patent family member(s) Membre(s) de la famille de brevets		Datum der Veröffentlichung Publication date Date de publication
WD A1	9918434	15-04-1999	AU A1	13695/99	07-04-1999
			WD C2	9918434	05-05-1999
WD A1	9840726	17-09-1998	AU A1	64648/98	29-09-1998
WD A2	9850782	12-11-1998	AU A1	72573/98	27-11-1998
			WD A2	9850782	04-12-1998

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